YAKIMA BASIN INTEGRATED PLAN

- Cle Elum Pool Raise
- Nelson Dam Removal
- SDBOC Fish Boom and Sluice Gate
- Bull Trout Update
- Cle Elum Fish Passage
- Sockeye Studies
**CLE ELUM POOL RAISE PROJECT**

**Completed Projects**
- Radial Gates Modification
- Saddle Dikes 1, 2, & 3
- Cle Elum River Campground
- Speelyi Beach Day Use Area
- Salmon La Sac Road Embankments
- Wish Poosh Campground & Boat Launch

**Near Future**
- Morgan Creek Shoreline Protection - (Plantings in Fall 2023)
- Night Sky, Domerie Bay & Timber Cove - Nov. 2023 (Construction completed)
- Sandelin Lane Shoreline Protection (Construction Completed May 2025)
- Jackson Well -TBD

**Future Projects**
- Speelyi Shoreline Protect. (Feb. 2023 60% design comp.)
CEPR: WISH POOSH CAMPGROUND & BOAT LAUNCH

- Wish Poosh Campground and Boat Launch, not to scale
- Award June 2020, USFS Facility
- Construction: September 2020 to May 2022
WISH POOSH CONSTRUCTION

- Anchored Logs
- Campground Watering Station
- Well House Access Road
- Picnic Island Vault Toilet Removal
- Cle Elum Reservoir
- Picnic Island
- Wish Poosh Campground
WISH POOSH CONSTRUCTION

Boat Launch Road
Raise and Replacement

Boat Launch Road to Picnic Island

Drainage Swale Along Boat Launch Road

Rip-Rap Embankment

Cle Elum Reservoir
WISH POOSH CONSTRUCTION
WISH POOSH CONSTRUCTION

Davis Creek Culvert
Upstream

Davis Creek Culvert
Downstream

Cle Elum Reservoir
WISH POOSH CONSTRUCTION

Masonry Wall – Boat Launch Parking Lot

Vault Toilet/Accessible Parking

Anchored Logs

Masonry Wall – Boat Launch Parking Lot

Cle Elum Reservoir
NELSON DAM REMOVAL
NATURE-LIKE CHANNEL

- City and County of Yakima
- Improves passage to 309 miles of habitat
- Decreases flood risk
- Improves water supply reliability
- USACE – Lead NEPA Agency w/ BPA and Reclamation
- Phase 1 Cost - $18 M – July 2021
SUNNYSIDE DAM FISH PASSAGE IMPROVEMENT PROJECT

- Adaptive management identified lower river smolt survival problem.
- Concept to construction in one year.
Fish Boom Installation
– Spring 2021
SUNNYSIDE DAM FISH PASSAGE IMPROVEMENT PROJECT

Fish Boom Installation – Spring 2021
SUNNYSIDE DAM FISH PASSAGE IMPROVEMENT PROJECT

Sluice Gate Installation
Fall 2021
SUNNYSIDE DAM FISH PASSAGE IMPROVEMENT PROJECT

- Fall 2021
- Monitoring is on-going

Sluice Gate Installation
BULL TROUT RECOVERY PROJECTS

MOU - Reclamation, Ecology, Yakama Nation, USFWS, WDFW, USFS – signed 2015

- Goal - healthy, harvestable stocks of bull trout throughout the Yakima Basin.
- Effective fish passage at Reclamation reservoirs and tributaries.
- Habitat enhancement in rivers and floodplains.
- Rescue, rearing and conservation hatchery programs.
- Robust surveys, science and planning.
## CAPTIVE REARING & RELEASE

### Gold Creek Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Released</th>
<th>Survival</th>
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<tbody>
<tr>
<td>2020</td>
<td>78</td>
<td>73%</td>
</tr>
<tr>
<td>2021</td>
<td>63</td>
<td>98%</td>
</tr>
<tr>
<td>2022</td>
<td>87*</td>
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### Kachess River Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Released</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>152</td>
<td>14%</td>
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<tr>
<td>2021</td>
<td>531</td>
<td>89%</td>
</tr>
<tr>
<td>2022</td>
<td>600*</td>
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2022 Proposed release dates are June 28 and June 29

---

### Gold Creek

<table>
<thead>
<tr>
<th>Year</th>
<th>Released</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>87*</td>
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</table>

### Kachess River

<table>
<thead>
<tr>
<th>Year</th>
<th>Released</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>600*</td>
<td></td>
</tr>
</tbody>
</table>

---

### Gold Creek Growth

- **2019-2020**
- **2020-2021**
- **2021-2022**

### Kachess River Growth

- **2019-2020**
- **2020-2021**
- **2021-2022**
## 2021 PIT Tag Detections

<table>
<thead>
<tr>
<th>Location</th>
<th>LaSalle BT</th>
<th>Gold Creek Rescued BT</th>
<th>Cutthroat</th>
<th>Trap and Haul</th>
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<tr>
<td><strong>Gold Creek LWR Site</strong></td>
<td>38</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Kachess River Site</strong></td>
<td>8</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Box Canyon Creek</strong></td>
<td>16</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Phase I:
Capture and Rear up to 3,500 Bull Trout for approximately, 3 months then release. Begin “life boating” Ahtanum Creek.

Reintroduction Areas:
* North Fork Teanaway River
* Taneum Creek

Phase II:
Include Big Creek and Waptus Lake Watershed (Cle Elum) for reintroduction

Possible Additional alternatives:
Begin Adult Brood holding Live spawn adults and use offspring for supplementation and reintroduction

12 Fiberglass 20’ X 4’ X 5’ Raceways
4 Fiberglass 10’ circular early rearing tanks
2 Fiberglass 30’ circular late-stage rearing tanks
Chiller and egg room for up to 100K eggs
CLE ELUM DAM FISH PASSAGE

- Adult and juvenile passage in process
- $200M innovative project
- Cost Share BOR/WA
- 4 of 5 contracts completed or in progress
- Fully funded Intake, Gate and Helix Contract FY22 (Awarded in FY18)
- Adult Collection Facility to be awarded in FY22/FY23
- Anticipate operational - 2026
Separation Wall Construction.
- Divides the secant structure into the “gate” chamber and the “helix” chamber.
- Isolates each chamber in case of leakage on one side or the other.
- Approximately 240 steps from the bottom of the helix chamber to the top of the secant structure.
CLE ELUM DAM FISH PASSAGE

- Intake structure foundations.

- Intake 6 complete, intake 5 formwork started.
CLE ELUM DAM FISH PASSAGE

- Tunneling through grout block section.
- Intake 6 guard gate and conduits.
CLE ELUM DAM FISH PASSAGE

- Precast sections connect the steel conduits to the cast-in-place intake structures.
- Electrical and pneumatic piping routed beneath the precast sections for operation of the Obermeyer gates.
• November 2021, first of 12 concrete lifts for the helix chamber access structure and the first of five floors in the gate chamber begin.
CLE ELUM DAM FISH PASSAGE

- Helix Chamber Access Structure
- Overall height of the access structure ~140’.
- Approximately 9 months to complete based upon a 3-week cycle.
CLE ELUM DAM FISH PASSAGE

• Helix Chamber Access Structure
• Lift #11 of 12

• Gate chamber
Helix structure mock-up in Spokane, WA, April 2021.
Construction to begin in Summer 2022.

Off-site “Construction” Activities
- Inspection & demonstration of the contractor designed leaf gate handling rails system.
- Inspection of the precast concrete flume sections prior to shipment to the construction site.
Look Ahead

- Resume work on the intake structures as reservoir levels drop, intakes 1-4 remaining.
- Begin construction of helix structure inside secant.
- Award Adult Collection Facility construction contract.
SOCKEYE STUDIES

- Adult Sockeye Tracking
  - Roza to Cle Elum
  - Yakima River Mouth to Roza
- Juvenile Sockeye Tracking
- Temperature & Dissolved Oxygen Model

- Yakama Nation’s Salmon Reintroduction
SOCKEYE BEHAVIOR & MOVEMENT

ROZA DAM TO CLE ELUM DAM

https://pubs.er.usgs.gov/publication/ofr20181116
SOCKEYE BEHAVIOR & MOVEMENT

MOUTH OF THE YAKIMA TO ROZA DAM

• Reach Length is about 125 Miles

• Tagging Locations
  - Columbia River
  - Prosser Dam Trap

• Passage Issues at Dams (delays)
• False Attraction (irrigation spills)
• Cool Water Refuge Use
• Columbia River Stranding
STUDY OBSERVATIONS
MORTALITY

Observations in 2019 and 2020

• Poaching
• Legal Harvest
• Bird Predation
• Stranding/Dying
  • Columbia River
  • Lower Yakima River

• Tagging stress
STUDY OBSERVATIONS  
MIGRATION BEHAVIOR

Observations in 2019 and 2020
• Fall Back - McNary
• Upstream Migration – Columbia
• Upstream Migration – Yakima
• Milling Around - Columbia

• 2021 Study Halted Due to Hot River Temperatures
• 2022 Study Will Start Mid-June
• Maintain Early Season River Temperature

• Maintain Weather Related River Cooling
TESTING LAMPARA
SEINE NETTING SYSTEM

Cle Elum Reservoir – May 2022
JUVENILE SOCKEYE TAGGING

Cle Elum Reservoir

May 2022
YAKAMA NATION’S REINTRODUCTION PROJECT
Cle Elum Sockeye Reintroduction

<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
<th>Trap &amp; Haul to Cle Elum Lake</th>
<th>Natural Production Returnees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>197,823</td>
<td>1,000</td>
<td>2,500</td>
</tr>
<tr>
<td>2010</td>
<td>366,523</td>
<td>2,500</td>
<td>4,500</td>
</tr>
<tr>
<td>2011</td>
<td>185,796</td>
<td>4,000</td>
<td>703</td>
</tr>
<tr>
<td>2012</td>
<td>515,673</td>
<td>10,000</td>
<td>-</td>
</tr>
<tr>
<td>2013</td>
<td>195,505</td>
<td>4,500</td>
<td>-</td>
</tr>
<tr>
<td>2014</td>
<td>614,179</td>
<td>10,000</td>
<td>2,653</td>
</tr>
<tr>
<td>2015</td>
<td>319,706</td>
<td>10,000</td>
<td>300</td>
</tr>
<tr>
<td>2016</td>
<td>342,498</td>
<td>10,000</td>
<td>4600</td>
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<tr>
<td>2017</td>
<td>87,859</td>
<td>1000</td>
<td>100</td>
</tr>
<tr>
<td>2018</td>
<td>193,816</td>
<td>4600</td>
<td>500</td>
</tr>
<tr>
<td>2019</td>
<td>63,046</td>
<td>0</td>
<td>200</td>
</tr>
<tr>
<td>2020</td>
<td>341,739</td>
<td>10,000</td>
<td>3,500+</td>
</tr>
<tr>
<td>2021</td>
<td>151,765</td>
<td>2700</td>
<td>200</td>
</tr>
</tbody>
</table>

After escapement goals are reached at Bonneville Dam of 80,000, current sockeye reintroduction project will be modified. Two adult sockeye casts are 1000 and can increase to 10,000 based on a RAC approved sliding scale.

A facility use agreement is in place, necessary insurance & endorsements. Genetic sampling of sockeye helps determine which stock is the most successful of the two donor stocks, Lake Wenatchee or Lake Osoyoos. This occurs at four different stages of the process:

1. Priest Rapids Dam adult collection
2. On spawning grounds (carcass surveys)
3. Smolt migration at Roza Dam and Chandler JV
4. Returning adults back to the Yakima Basin

Currently, adult reintroduction project only, no hatchery process. Two donor stocks, Lake Wenatchee and Lake Osoyoos. A facility use agreement is in place, necessary insurance & endorsements. A fee is paid for the trap & haul process to take place.

Receive annual transport permit from Washington Department of Fish & Wildlife (WDFW).

Contacted local land owner on Lake Cle Elum to accessing his property to release sockeye.

To work at the OLAFT, YNF crew must complete a security and safety test to receive clearance badge to access facility.
Priest Rapids Dam
- Sockeye collected for Reintro since 2009 Mid-June to Mid-July
- Between 1000-10,000 collected annually
- Genetic Sampling
- 2-4 Loads a day
- 90 Miles to Cle Elum Lake

Prosser Dam
- Sockeye smolts are collected, counted and sampled (Whenever allowed to leave on spill)
- YB returning sockeye counted June-September

Roza Dam
- Adult Sockeye counted, sampled, sexed, and transferred to Cle Elum Lake July-September
- 60 Miles to Cle Elum Lake

Cle Elum Dam
- Permanent Fish Passage Construction
- Carcass Surveys/Genetic Sampling
- Mackinaw Gillnetting
- Hydro-Acoustic Surveys
- Dam Tours/Outreach

Proza Dam
- Adult Sockeye counted, sampled, sexed, and transferred to Cle Elum Lake July-September
- 60 Miles to Cle Elum Lake

Cle Elum Dam
- Permanent Fish Passage Construction
- Carcass Surveys/Genetic Sampling
- Mackinaw Gillnetting
- Hydro-Acoustic Surveys
- Dam Tours/Outreach
MORE TROUT FOR KITITAS

The Washington Department of Fish and Game announces that the Kittitas County Game Commission will stock the upper reaches of the Yakima River with trout pelts. This action follows a request from local anglers for more fishing opportunities in the area. The commission plans to release several hundred trout to various locations, including the Stillaguamish River and the upper reaches of the Yakima River.

OLYMPIA, WASHINGTON - The Kittitas County Game Commission has welcomed the request for more trout in the area. Chairman John Williams has stated that the commission will work with local anglers to determine the best locations for the release. He mentioned that the commission is also considering the possibility of introducing steelhead into the area.

PLANT NEARLY 2,000,000 Fry

The Kittitas County Game Commission has announced plans to release nearly 2,000,000 fry into the local streams and rivers. This is in addition to the 1,000,000 fry released last year. The commission is collaborating with local anglers and conservation groups to ensure the successful release of these fry.

Friday, December 24th

150,000 EGGS FOR OUR COUNTY

The Kittitas County Game Commission has received 150,000 eggs from the Washington Department of Fish and Game. These eggs will be used to hatch fry for the local streams and rivers. The commission is working with local anglers to determine the best locations for the fry to be released.
• REMOVAL/REDUCE (BEGAN IN 2013)

• REQUIRED-MACKINAW REMOVAL PROPOSAL

• WDFW PARTNERSHIP

• SCIENTIFIC COLLECTORS PERMIT FROM YN FISH AND WILDLIFE COMMITTEE

GILL NETTING

• UP TO 14 GILL NETS USED AND THE FOLLOWING INFORMATION COLLECTED,
  • WEIGHTS, LENGTHS AND HEADS FOR AGING
  • BY-CATCH & DNA
  • NUMBERS REMOVED
    • 2013=150
    • 2014=258
    • 2015=386
    • 2016=116
    • 2017=146
    • 2018=292
    • 2019=396
    • 2020=123
    • 2021=97
ERADICATED MACKINAW

- **Female**
- **Male**
- **Total**

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>107</td>
<td>43</td>
<td>150</td>
</tr>
<tr>
<td>2014</td>
<td>151</td>
<td>107</td>
<td>258</td>
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<tr>
<td>2015</td>
<td>225</td>
<td>161</td>
<td>386</td>
</tr>
<tr>
<td>2016</td>
<td>225</td>
<td>116</td>
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<tr>
<td>2017</td>
<td>136</td>
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<td>2018</td>
<td>136</td>
<td>146</td>
<td>282</td>
</tr>
<tr>
<td>2019</td>
<td>188</td>
<td>208</td>
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</tr>
<tr>
<td>2020</td>
<td>85</td>
<td>123</td>
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</tr>
<tr>
<td>2021</td>
<td>38</td>
<td>74</td>
<td>112</td>
</tr>
<tr>
<td>Month</td>
<td>DAY</td>
<td>YEAR</td>
<td>TRAP &amp; HAUL</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>2019</td>
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<tr>
<td>JUNE</td>
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<td>February</td>
<td>11</td>
<td>2015</td>
<td>10,000</td>
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THANK YOU!

Questions?

Website: www.yakimabasinintegratedplan.org